

METHOD AND SYSTEM FOR ACTIVE TIP CLEARANCE CONTROL IN TURBINES

ABSTRACT OF THE DISCLOSURE

[0022] A system for controlling blade tip clearance in a turbine. The system includes a stator including a shroud having a plurality of shroud segments and a rotor including a blade rotatable within the shroud. An actuator assembly is positioned radially around the shroud and includes a plurality of actuators. A sensor senses a turbine parameter and generates a sensor signal representative of the turbine parameter. A modeling module generates a tip clearance prediction in response to turbine cycle parameters. A controller receives the sensor signal and the tip clearance prediction and generates at least one command signal. The actuators include at least one actuator receiving the command signal and adjusts a position of at least one of the shroud segments in response to the command signal.